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Search for a heavy scalar decaying into the Higgs boson and missing energy with the ATLAS detector

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Abstract content (Max 300 words) **Formatting & Special chars**

A distortion of the Higgs transverse momentum spectrum was observed with Run I data. This feature can be interpreted as the production of a heavy scalar, H , decaying into the Higgs boson and something else, including missing transverse energy. This heavy scalar H has been hypothesised and is allowed to decay to the SM Higgs and a dark matter candidate, X , in order to probe the search for Higgs plus missing transverse momentum. Limits were placed on the branching ratio on the H to hXX decay using Run II data. Prospects for the future analysis of this will be discussed. Techniques for the reconstruction of missing transverse momentum for Run II will also be reviewed.

Apply to be considered for a student award (Yes / No)?

Yes

Level for award (Hons, MSc, PhD, N/A)?

MSc

Main supervisor (name and email) and his / her institution

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Would you like to submit a short paper for the Conference Proceedings (Yes / No)?

Yes

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Yes

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